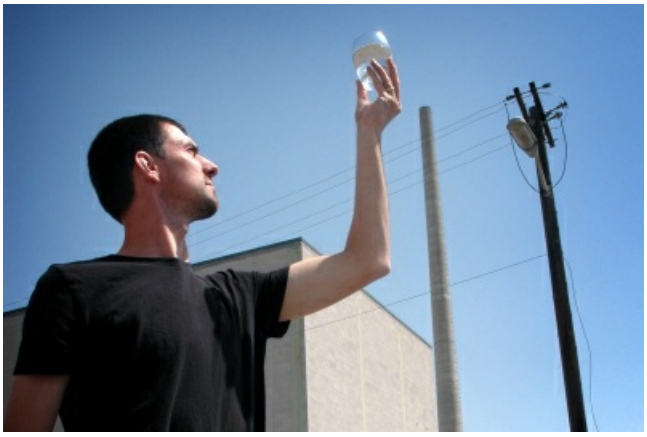


Staff engineer Phil Sharpe won the 2008 Excellence in Fusion Engineering Award, which recognizes individuals who have shown potential early in their careers to influence the fusion field.

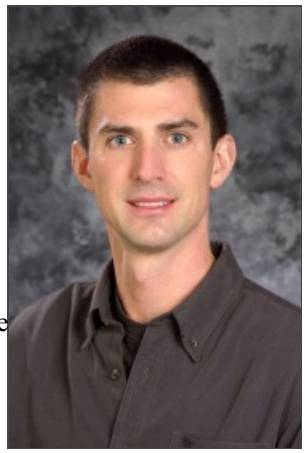
INL's Phil Sharpe recognized for fusion engineering research

by Teri Ehresman, *INL Communications*

Working to ensure the development of fusion as a socially, environmentally and economically attractive source of energy is something J. Phillip "Phil" Sharpe strongly believes in. He has spent the early part of his professional career working to advance the development of fusion research.

His hard work and dedication has led to his selection as winner of the 2008 Excellence in Fusion Engineering Award by the Fusion Power Associates (FPA). The award, established in 1987 in memory of MIT Professor David J. Rose, has been given annually to recognize individuals in the relatively early part of their careers who have shown both technical accomplishment and potential to become exceptionally influential leaders in the fusion field.

In selecting Sharpe for the honor, the FPA Board noted his many technical accomplishments, including "key research on plasma-materials interactions, tritium behavior in materials and inertial fusion blanket design; and your leadership in the important area of fusion reactor safety."



INL's Phil Sharpe won the 2008 Excellence in Fusion Engineering Award.

Sharpe was selected based in part on letters of recommendation from David Petti and Kathryn McCarthy, nuclear program managers at INL.

In recommending Sharpe for the honor, Petti noted that since joining the INL Fusion Safety Program seven years ago, Sharpe has been given increasing levels of responsibilities.

"He initially took over our very successful tokamak dust characterization work and made progress with that, then he initiated dust experiment design and modeling tasks," Petti said.

"After that, he started the refurbishment and restoration of Rion Causey's Tritium Plasma Experiment, which was relocated to Idaho from another lab. This may not sound like a difficult task, but much of the experiment required parts replacement, rebuilding key components, tritium decontamination and system operations testing at INL. The work was carried out under radiological protection conditions due to the tritium contamination; it required several years of Phil's time and effort, and that of others in Idaho that he led, to get the TPE operational again. It is today operational and providing key information on tritium behavior in plasma facing materials."

Sharpe is a graduate of North Carolina State University, where he received bachelor's of science degrees in nuclear engineering and physics, both in 1995, and a Ph.D. in nuclear engineering in 2000. He first came to INL in the summer of 1995 as a student research assistant in the Fusion Safety Program and again in 1999, before being selected as a postdoctoral fellow in the Fusion Safety Program in 2000. He joined INL in 2001 as a staff scientist/engineer in the Fusion Safety Program. In addition to leading the Fusion Safety Program and Safety and Tritium Applied Research (STAR) User Facility, he manages the Thermal Science and Safety Analysis Department in the INL Nuclear Science and Technology Directorate.

Sharpe became familiar with INL through the intern program, and since joining the lab, has been helping other students with their nuclear energy careers.

Una Tyng, INL university internship programs coordinator, says Sharpe is a great example of how successful the lab's internship program is as a pipeline for future world-class employees.

"He is a role model mentor who had the experience of an intern and knows what is needed to help a student who comes into unfamiliar territory (most nuclear engineering students come from across the United States) and gives the student such a wonderful experience that they return and accomplish their thesis or dissertation," She said. "He has been involved on dissertation committees and now, as a manager, has the capacity to hire talented future employees."

Phil Sharpe inspects a weld at the Safety and Tritium Applied Research (STAR) User Facility.

Tyng says she appreciates the extra efforts he makes to visit his alma mater and personally talk to the class and invite students to apply for the internship programs. "I consider Phil a wonderful advocate for our program as well as an asset to the future of INL."

When he is not at work, Sharpe is active in the Idaho Falls community. He is treasurer and a member of the board of directors for the Snake River Montessori School in Idaho Falls and is a member of the Idaho Falls Astronomy Club, Idaho Alpine Club and the Idaho Falls Community Garden Association.

He is a native of North Carolina and his parents, Ray and Sandra Sharpe, live in Reidsville.

Sharpe is the third INL researcher to win this award. Previous recipients were Steve Piet in 1987 and Kathryn McCarthy in 1994.

Feature Archive